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Operation Moked And The Principles Of War

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

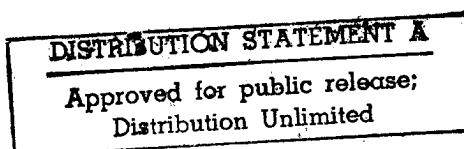
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## **ABSTRACT**

The Israeli plan code-named Operation Moked conducted during the 1967 Six Day War provides an excellent case study to evaluate the utility of the principles of war, as defined in Joint Pub 3-0, Doctrine for Joint Operations, in planning the air phase of an operational campaign. This historical case shows how the Israeli Air Force planned and conducted a hugely successful air operation during the opening hours of the Egyptian campaign with resultant influence on the entire war. Study of the strategies, doctrines, and organization of the Israeli Air Force during this conflict continues to give insight into the war planning and decision process as augmented by application of the principles of war. The superior Israeli planning effort improved the chances for victory against an enemy coalition with overwhelming numerical advantage. Operational commanders must comprehend how successful operations can be developed. The principles of war are the foundation of U.S. military doctrine and thus guide warfighting at the strategic, operational, and tactical levels. Operation Moked offers an opportunity to evaluate the utility of the principles of war against a successful operation and draw some lessons learned for future planners. What made Operation Moked such an operational success? This paper answers that question by first reviewing a brief historical perspective of the events and issues that led to the 1967 Arab-Israeli conflict known as the Six Day War. The paper then continues with an overview of Israeli defense policy, military doctrine and strategy, the plan Operation Moked, and the resources used to develop the opening phase of the Egyptian campaign. The air phase is further analyzed against the framework of the principles of war. The paper concludes that the principles of war remain an excellent planning tool for guiding future campaign planners.

## TABLE OF CONTENTS

ABSTRACT.....	ii
TABLE OF CONTENTS.....	iii
INTRODUCTION.....	1
BACKGROUND .....	2
Defense Policy .....	2
Military Strategy and Doctrine .....	3
OPERATION MOKED .....	4
The Plan.....	4
Air Phase .....	5
Land Phase.....	6
Air Operation.....	7
PRINCIPLES OF WAR.....	9
Objective.....	9
Offensive.....	10
Mass .....	11
Economy of Force.....	12
Maneuver.....	12
Unity of Command.....	13
Security.....	14
Surprise.....	15
Simplicity .....	15
CONCLUSION.....	16
APPENDIX I -- CHRONOLOGY OF EVENTS.....	17
APPENDIX II -- AIR ORDER BATTLE.....	21
APPENDIX III -- AIRCRAFT LOSSES.....	22
NOTES.....	23
BIBLIOGRAPHY.....	26
Figure .....	7

## INTRODUCTION

*The arrogant and provocative Egyptian enemy has raised its hand to consume us. Fly on toward the enemy. Batter him into annihilation, destroy his fangs, and scatter him in the desert so that the people of Israel can reside in their land secure for generation unto generation.*

The above quote is from the Israeli Air Force (IAF) Major General Mordechai Hod's air command order of the day that fired the opening salvo of one of the most successful air operations in history conducted during the conflict known as the 1967 Six Day War.<sup>1</sup> Despite their strategically unstable situation, the Israelis have always had to balance the demands of military preparedness against the social and economic necessity of creating a nation state. The country is a carefully balanced labor oriented economy that cannot afford to become involved in a long war with numerous casualties or commercial disruption. Mobilization stagnates the economy and the majority of the military personnel comes from a citizen army and air force trained by a small cadre of regulars. Israel must depend upon superior training and equipment and the "force multipliers" of agility, maneuver, and firepower to win quickly.<sup>2</sup> They have to guard against the prospect of a successful surprise by the enemy. Thus, strategists have always planned short offensive campaigns on enemy soil in which air power is an essential element. Much of Israel's success conducting military operations arises from an acute appreciation of airpower.<sup>3</sup> The Israeli plan code-named Operation Moked provides an excellent case study to evaluate the opening air phase of the Egyptian campaign using a framework of the principles of war as defined in Joint Pub 3-0, Doctrine for Joint Operations. Today, operational commanders must comprehend how successful operations can be developed using these principles as a guide to effective campaign planning. The nine principles of war are objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise, and simplicity. The principles of war guide warfighting at the strategic, operational, and tactical levels and are the foundation of U.S. military doctrine.<sup>4</sup>

Operation Moked offers an opportunity to evaluate the principles of war against a successful operation and draw some lessons learned for future planners. What made Operation Moked such an operational success? This paper answers that question by first reviewing a brief historical perspective of the events and issues that led to the 1967 Arab-Israeli conflict known as the Six Day War (Appendix I). The paper then continues with an overview of Israeli defense policy, military doctrine and strategy, the Operation Moked plan and the resources used to develop the opening phase of the Egyptian campaign. The air phase is further analyzed against the framework of the principles of war. The paper concludes that the principles of war are still an excellent planning tool for guiding future campaign planners.

## **BACKGROUND**

### **Defense Policy**

*Si vis pacem, para bellum (If you want peace, prepare for war)*

David Dayan

Israeli defense policy evolved after the 1956 Sinai Campaign and was adapted to Israel's political and geographic position with its limited resources. The defense policy contained four elements. First, peace was preferred but not if it would leave Israel indefensible. Security was Israel's principal interest. Second, in the event of hostilities, Israel had to be prepared to win without outside help even if fighting different enemies simultaneously. Third, due to Israel's geopolitical position the country could not afford to lose a single major engagement. Such a defeat could mean the loss of the war and the country. Fourth, although prepared to fight alone, Israel would ask for United States support to counter opposing major powers. The overall thrust of the defense policy was to emphasize the credibility of the military threat to potential enemies and prevent war.<sup>5</sup> According to Thomas J. Waraska in "Recurrent Conflict and Elusive Peace:

The Arab-Israeli Wars,” Israel had to have early warning in order to mobilize, and the Air Force had to defend the populated areas and take the war to the enemy, thus gaining time and not trading space.<sup>6</sup> Waraska describes six causes for war in which Israel would consider launching an offensive. First was a threatening massive buildup of Arab forces on one or more of Israel’s borders. Second, the closing of the Straits of Tiran (the entrance to the gulf of Aqaba and the Israeli port city of Eilat, Israel’s lifeline to natural resources such as oil). The third, and a reason for many retaliatory raids, was a high level of terrorism. Israel held a host country responsible for raids launched by Palestinian terrorists from within its borders. Fourth, was an air attack on either air bases or Israel’s scientific or nuclear installations. Fifth, was a military pact between Jordan and another country such as Egypt, that permitted the massing of Arab forces on the strategically important West Bank. Sixth, was an unbalanced supply of arms to the Arabs.<sup>7</sup>

### **Military Strategy and Doctrine**

According to USAF Colonel Dennis M. Drew, military doctrine is what we believe about the best way to conduct military affairs and it influences the strategic process.<sup>8</sup> During the interwar years, Israeli doctrine, command and control, force structure, operational thinking, and training changed significantly. The cumulative effect of this activity as stated by Dr. George W. Gawrych in his article, “The Battles for Abu Ageila in the 1956 and 1967 Arab-Israeli Wars,” was to transform the Israeli Defense Force into a modern fighting machine capable of “conducting rapid maneuver warfare into an enemy’s rear with large armor formations supported by an air force.”<sup>9</sup> The Israeli strategy process was influenced greatly by the leadership of General Moshe Dayan. As Minister of Defense, he became the overall architect of the 1967 Six Day War. The lessons learned from his participation in the 1956 war were incorporated into the Israeli military doctrine. A number of important areas were identified by the General Staff’s study of the Sinai



Campaign and applied to the next war plan and doctrine development. First, rapid mobilization of the reserves was fundamental. Second, Israel must plan to fight without the support of the international community. Third, weapons and other military supplies would be stockpiled in Israel before the war, since outside events might block replenishment. Fourth, the ground support and air superiority roles required an all fighter air force. Fifth, there was increased tactical emphasis on using mobile armor formations. Sixth, the tactical supply system had to support rapid movements. Seventh, C2 had to improve to facilitate command. Finally, the gathering of intelligence and the use of radar systems would help provide early warning to improve mobilization.<sup>10</sup> The key element of Israeli military doctrine and strategy was maintaining Israel's territorial integrity. If the Israelis felt threatened, they made contingency plans to launch a strategic preemptive strike. The goal was to maintain a strong and intimidating system of defense that would deter or prevent any Arab military initiatives of any great significance.<sup>11</sup>

## **OPERATION MOKED**

### **The Plan**

*It was a leaping strategy; a series of visible, discrete steps, each dependent on the one that preceded it. Historians, then, may call it a saltatorial, sequential strategy. But, by any name, Israel's Defense Forces executed their plans with such assiduity, such finesse, and such impertinence as to astound even the non-Arab strategic and tactical experts.*

Captain W. J. Kotsch, U.S. Navy (Proceedings, 1968)

Strategy for developing the plan can be described as sequential as defined by John M. Collins, in his article "Essence of Strategy." Each successive step is contingent on the one preceding, that leads to the final objective.<sup>12</sup> Israel's Operation Moked was based upon a model similar to that of Operation Barbarossa, the German Luftwaffe operation that, on June 22, 1941, destroyed most of the Soviet Air Force before it could launch. The IAF conducted exercises and

training for years with the goal of defeating its enemy in just such an operation.<sup>13</sup> Colonel Cohen, in Israel's Best Defense, explains, "the idea that the best defense of the nation's skies and the achieving of air superiority must lie in a devastating preemptive strike on the enemy's air bases was not easy to assimilate after years of defensive thinking." He credits General Dan Tolkowsky, the first fighter pilot Chief of Staff, in the 1950s, with the design of the strike first and air superiority principle incorporated into the Moked plan.<sup>14</sup> Plans for Operation Moked began in 1963 and were updated as intelligence and situations changed. The plan design according to Colonel Cohen "was rooted in superior comprehensive intelligence." Extensive information included base locations, aircraft types, munitions, fuel supplies, data on pilots, operational training capabilities, radar sites, regional control centers, and aircraft scrambling procedures.<sup>15</sup>

Air Phase. The Israeli air and ground forces were commanded by General Yitzhak Rabin, Chief of Staff, Israel Defense Force. The Air Force was commanded by Major General Mordechai (Moti) Hod. The air phase called for a preemptive attack against Egyptian aircraft, airfields, and radar sites. The first task was the grounding of Egyptian aircraft by bombing the runways. Bomb technology had advanced enough to produce a runway penetration bomb. The bomb used a parachute to activate a rocket that propelled it through the concrete layers of a runway creating large craters. The runways were useless for transferring or returning Egyptian warplanes.<sup>16</sup> The second task was destroying the aircraft. The main targets were the fighter bombers that were capable of reaching Israeli cities. According to Colonel Cohen's figures, the Israeli Air Force consisted of 180 bombers and attack aircraft including Ouragans, Mysteres, Super Mysteres, Mirages, and Vautours. The Egyptian aircraft included front line fighters and bombers supplied by the Soviet Union. They were located at four airfields in the Sinai, three along the Suez Canal, six in the Nile Delta, and five in Upper Egypt.<sup>17</sup> Each Israeli air base was

given a great degree of autonomy for squadron operations. Because of its scale, Operation Moked required that each Israeli aircraft received the maximum bomb load and was scheduled for four or five sorties each day. Combat turnarounds became a routine operation for aircrews and maintenance personnel. Returning pilots called in maintenance problems to control and the appropriate experts were waiting to fix the aircraft with the right tools and parts.<sup>18</sup> This combat maintenance procedure is used today by the USAF. The plan called for achieving air superiority within six hours of the commencement of the attack by demolishing all aircraft on the ground. It included the assumption that Syria would not be able to respond until after the first wave. Almost the entire IAF force structure was required to conduct the preemptive strike. Only twelve aircraft were left to defend Israel, a fact Major General Hod kept from Prime Minister Eshkol.<sup>19</sup> (see Orders of Battle at Appendix II)

Land Phase. Command and control of the ground forces was subdivided into three separate commands. General Gavish was area commander for the Southern Command against Egypt, General Sharon was the area commander for the Central Command against Jordan, and General Elazar was the area commander of the Northern Command against Syria. The plan for the ground phase in the Sinai had three principal axes. One was the coastal axis of Rafah -- El Arish -- Qantara on the Suez Canal; the second was Nitsana -- Abu Agheila; and the third was the Kuntilla -- A'Temed Nakhl-Port Fuad-Suez. There were three aims to the Israeli ground operation and three stages of execution. The three aims were to destroy the Egyptian army, to capture Sharm al-Sheikh and open the road to Eilat; then conquer all the Sinai as the Israeli Army had done in 1956. (see the Chronology for 1956 at Appendix 1) The first of three stages entailed opening two passages into the peninsula to destroy the Egyptian forces on the Eastern line, then

push forward and destroy the defensive line, and finally engage the armored divisions in open battle and destroy them.<sup>20</sup>

### The Air Operation

*The Israeli Air Force today destroyed four hundred enemy aircraft of all types at all of the [sic] Egypt, Jordan, and Syria's air bases, as well as at Iraq's forward base. In essence, the air forces of Egypt, Jordan, and Syria have been annihilated.*

IDF Chief of Staff Yitzhak Rabin

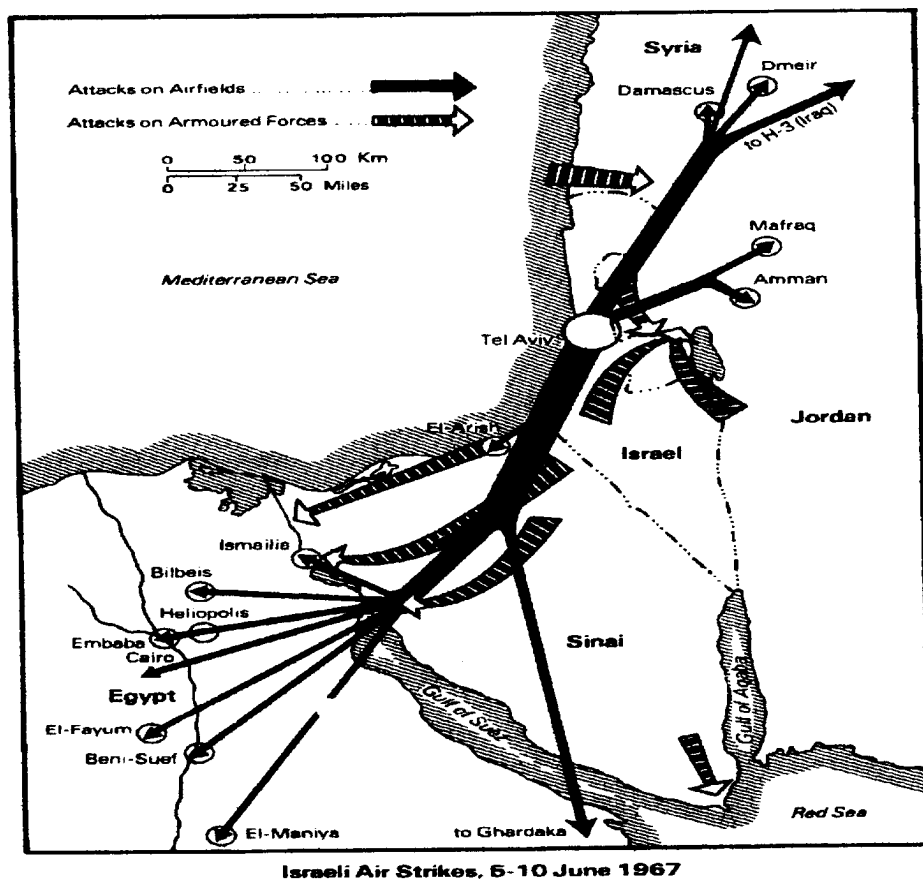


Figure. Egyptian, Jordanian, and Syrian airfields

The aircraft of the Egyptian Air Force were located at eighteen airfields -- four of them in the Sinai, three along the Suez Canal, six in the Nile Delta, and five in Upper Egypt. The Syrians were using six airfields, and the Jordanians two. (see Figure) The preemptive strike would have

to include the seven forward airfields in the Sinai and the Suez Canal, and the six in the Nile Delta.<sup>21</sup> IAF planners selected targets according to Egyptian aircraft flight range, level of threat at each airfield, and the attack capabilities of each type of aircraft. The primary objectives were the destruction of the Mig 21 front-line fighters and the TU-16 and Il-28 bombers. All were destroyed as well as a large segment of the fighters. Secondary objectives were airfields and air defenses. Israeli aircraft took off in cells of four to the Mediterranean and diverged according to target. Speed was Mach 1 and altitude was not to exceed thirty feet, to avoid radar detection. Only one radar station in Amman saw the takeoff of the first wave. The Jordanians thought the aircraft were from the U.S. Sixth Fleet because of the high efficiency demonstrated by the Israeli planes and Nasser's claim the IAF was being helped by American and British aircraft.<sup>22</sup> (see Appendix III for an account of destroyed air assets on all sides) The preemptive strike eliminated the air threat to Israel's urban centers and to the ground forces moving into Sinai. Major General Hod diverted his air assets to support the Israeli Defense Force's armored thrusts. Egyptian troops, trucks, and tanks rushing headlong towards the Mitla Pass were steady targets for IAF fighters. The photos of the 16 mile road show the devastation of air power and remind one of the Iraqi flight during Operation Desert Storm in 1991. On the fifth and sixth day of the war Israeli airpower was turned against the armies and air forces of Jordan, Syria, and Iraq (aircraft only) with the same effectiveness as the Egyptian campaign. During post hostilities, all parties accepted the cease-fire called for by U.N. Security Council Resolutions 235 and 236. Israel then controlled the Sinai Peninsula, the Gaza Strip, the Golan Heights, and the West Bank of the Jordan River, including East Jerusalem. Israel was three times larger than it was in 1949. On November 22, 1967, the Security Council adopted Resolution 242, the "land for peace" formula. This plan called for the establishment of a lasting peace based on Israeli withdrawal from territories

occupied in 1967. This peace plan asked the nations to cease hostilities and for all the parties to recognize the sovereignty of all states in the area, and to live in peace within secure recognized boundaries.<sup>23</sup>

## **PRINCIPLES OF WAR**

*The principles of war guide warfighting at the strategic, operational and tactical levels of war. They are the enduring bedrock of US military doctrine.*<sup>24</sup>

The Six Day War offers military students an excellent case study for evaluating the usefulness of the Principles of War. According to General Donn A. Starry, “The value of the principles lie in their utility as a frame of reference for analysis of strategic and tactical issues.”<sup>25</sup> In a 1949 article in *Proceedings*, Rear Admiral C. R. Brown cautions planners that principles of war are not sacred. He states that “war cannot be fought by a book or rules and adherence to one rule frequently demands violation of another.”<sup>26</sup> According to Brereton Greenhous, “The IDF and the Prime Minister agreed to the plan and the decision was made to concentrate everything against the stronger opponent and virtually every one of the principles of war was exemplified in the attack launched at 0745 hours.”<sup>27</sup> Today, planners must beware that the principles will not produce a faultless plan, but planners can use the principles of war as a set of questions to judge a campaign plan comprehensiveness.

## **Objective**

*The purpose of the objective is to direct every military operation toward a clearly defined, decisive, and attainable objective. The objective of combat operations is the destruction of the enemy armed forces' capabilities and will to fight. Each operation must contribute to the strategic objectives. Objectives must directly, quickly, and economically contribute to the purpose of the operation. Each operation must contribute to strategic objectives. Avoid actions that do not contribute directly to achieving the objective.*

The objective is the overall goal or purpose of the military effort. The nation, the military and each echelon must have its own objectives. Colonel Warden, author of the Air Campaign

states, “The military objective must lead to the political objective. The military objective can be the destruction or neutralization through maneuver of some or all of the enemy forces.”<sup>28</sup> In this case study the center of gravity was Egyptian air forces and fields. The Israeli strategic objectives entailed the reopening of the Straits of Tiran and defeating the militaries of the Arab countries concentrated on her borders. The accomplishment of these objectives enabled the Israelis to ensure a resupply of resources by sea and freedom of navigation as well as relief from air attacks on her population. These objectives would lead to the political objective -- survival of the state. According to Israeli doctrine as stated earlier, the IAF was to take the military action into the bordering countries thus reducing danger to the populated cities in Israel. The IAF accomplished the destruction of the Egyptian air power capability on the ground and gained complete air superiority. Colonel John Warden comments, “The Israelis committed their entire air force (minus eight fighters on home combat air patrol and four on runway alert) in a bid for air superiority on the first day of the 1967 war...this was an instance where a single battle was decisive.”<sup>29</sup>

### **Offensive**

*The purpose of an offensive principle is to seize, retain, and exploit the initiative. Offensive action is the most effective and decisive way to attain a clearly defined objective. Offensive operations are the means by which a military force seizes and holds the initiative while maintaining freedom of action and achieving decisive results. The importance of offensive action is fundamentally true across all levels of war.*

A key element of Israeli defense policy was the maintenance of Israel’s territorial integrity. If the Israelis felt endangered, they were determined to launch a strategic preemptive strike. A strategic preemptive strike is an aggressive military attack to secure an advantage in the face of an enemy buildup and likely strike.<sup>30</sup> They maintained such an offensive orientation for several

reasons. First, Israel's geo-strategic situation demanded that the war be fought on enemy territory. Second, they believed that they would have to defeat the enemy on their ground before the international powers intervened through the United Nations and established new boundaries. This meant maintaining the initiative and dictating the battle. Israel planned to fight on all fronts simultaneously while concentrating upon eliminating the stronger enemy first.<sup>31</sup> The opening barrage of the preemptive strike against the Egyptian airfields, aircraft, pilots, and supporting infrastructure and personnel is a classic example of seizing the initiative and offensive. The preemptive air strike allowed the IAF commanders to conduct offensive operations at will while achieving decisive results. This drive allowed the IDF to exploit ground operations, complete their actions against Egypt, and transfer their attention to the Jordanian and Syrian fronts.

### **Mass**

*The purpose of mass is to concentrate the effects of combat power at the place and time to achieve decisive results. To achieve mass is to synchronize appropriate joint force capabilities where they will have decisive effect in a short period of time. Mass must often be sustained to have the desired effect. Massing effects, rather than concentrating forces, can enable even numerically inferior forces to achieve decisive results and minimize human losses and wasted resources.*

General Starry states "Massing of forces together with the proper application of principles of war may enable numerically inferior forces to achieve decisive battle outcomes."<sup>32</sup>

Concentrating their air power assets to achieve mass in a preemptive air strike resulted in a decisive outcome for the numerically inferior IAF. The EAF outnumbered the IAF three to one. Colonel Warden explains, "If the offense is inferior in numbers, only one course of action may lead to victory." The classic case of making the right decision and the right plan was the Israeli attack on the Arab air forces in 1967.<sup>33</sup> The IAF massed almost all of its air assets in the Egyptian preemptive strike leaving only a small defense force behind. They concentrated their forces



against strategically located air fields and targeted the fighter bomber aircraft specifically to deny the EAF the capability of bombing Israeli population centers. Colonel Cohen describes the operation: "The attack on the thirteen Egyptian air bases was designed to cause paralysis and prevent any attempts at defense or the escape of aircraft from base to base, a maneuver that the Egyptians had rehearsed many times." This concentration of force set up the strategic paralysis which caused a deteriorating cascading situation effecting Egypt's ability to wage war.<sup>34</sup>

### **Economy of Force**

*The purpose of the economy of force principle is to allocate minimum essential combat power to secondary efforts. Economy of force is the judicious employment and distribution of forces. It is the measure allocation of available combat power to such tasks as limited attacks, defense, delays, deception, or even retrograde operations in order to achieve mass elsewhere at the decisive point and time.*

General Starry states, "As a reciprocal of the principle of mass, economy of force suggests that in the absence of unlimited resources, a nation may have to accept some risk in areas where vital national interests are not immediately at risk."<sup>35</sup> General Hod did not expound on his limited resources with General Itzak Rabin. The government would have insisted on more than twelve aircraft to defend Israel's cities. General Hod needed the concentration of all his air force resources to successfully complete the IAF objectives -- grounding the enemy air forces and destroying their runways and achieving air superiority.<sup>36</sup>

### **Maneuver**

*The purpose of maneuver is to place the enemy in a position of disadvantage through the flexible application of combat power. Maneuver is the movement of forces in relation to the enemy to secure or retain positional advantage, usually in order to deliver -- or threaten delivery of -- the direct and indirect fires of the maneuvering force. Effective maneuver keeps the enemy off balance and thus also protects the friendly force. It contributes materially in exploiting successes, preserving freedom of action, and reducing vulnerability by continually posing new problems for the enemy.*

The IDF fought three separate campaigns evicting the Egyptian army from the Sinai

Peninsula in four days, the Jordanian army from the West Bank in two-and-a-half days, and the Syrian army from the Golan Heights in just one-and-a-half days.<sup>37</sup> This was an extraordinary example of maneuver of forces. The EAF air fields were numerous and spread out over a large area making a surprise attack difficult. In launching their entire force against eighteen Egyptian airfields, the IAF was organized into two waves separated by a period of battle damage assessment.<sup>38</sup> Egyptian bases were under continuous attack until all the grounded aircraft were destroyed. Strafing runs damaged the runways at many fields causing chaos for launched Egyptian aircraft returning or moving to other air fields during attacks. The virtual destruction of the Egyptian bomber force and air defense system opened the Egyptian army to devastating blows by the Israelis. This overwhelming initial success in Egypt allowed the ground forces flexibility to maneuver in the Sinai and on the other fronts.

### **Unity of Command**

*The purpose of unity of command is to ensure unity of effort under one responsible commander for every objective. Unity of command means that all forces operate under a single commander with the requisite authority to direct all forces employed in pursuit of a common purpose. Unity of command means that all forces operate under a single commander with the requisite authority to direct all forces employed in pursuits of a common purpose. Unity of effort, however, requires coordination and cooperation among all forces toward a commonly recognized objective, although they are not necessarily part of the same command structure. In multinational and interagency operations, unity of command may not be possible, but the requirement for unity of effort becomes paramount. Unity of effort – coordination through cooperation and common interests – is an essential complement to unity of command.*

The IAF has never been a separate service. In peacetime it is aligned like a branch such as armor. However, in war time, the IAF functions as an operational command. Differences in point of view between ground and air planners still existed in 1967. Before the Six Day War, there were still some disbelievers in the ground forces about the ability of the Air Force to achieve air

superiority and destroy strategic objectives; however, the ground commanders were directed to concentrate all effort was in support of the IAF. The area commanders remained in a defensive posture until events changed. The ground phase began under the direction of General Tal with close coordination between the air forces and ground forces. During the first battle, General Tal's clear statement of the need for unity of effort stands as the ultimate example of the application of this principle: "If we are to win the war, we must win the first battle...this battle must be fought with no retreats; every objective must be taken, no matter the cost in casualties, we must succeed or die." All objectives were successfully achieved.<sup>39</sup>

### Security

*The purpose of security is to never permit the enemy to acquire unexpected advantage. Security enhances freedom of action by reducing friendly vulnerability to hostile acts, influence, or surprise. Security results from the measures taken by commanders to protect their forces. Staff planning and an understanding of enemy strategy, tactics, and doctrine will enhance security. Risk is inherent in military operations. Application of this principle includes prudent risk management, not undue caution. Protecting the force increases friendly combat power and preserves freedom of action.*

The principle of security enhances the successful execution of an operation. According to General Starry, "Thorough knowledge and understanding of enemy strategy, tactics and doctrine, as well as detailed strategic staff planning can improve security and rescue vulnerability to surprise."<sup>40</sup> Operation Moked was developed in complete secrecy. The plan was only distributed in twelve copies to key personnel and commanders to ensure its security, thus offering the greatest protection from compromise. The Israeli war planners had superior intelligence relating to the enemy's strategy, tactics, and doctrine and incorporated it into the plan. The 0845 time period (Cairo time) was selected based on the observation and timing of the air operation habits of the EAF. Planners knew the Egyptian commanders and support personnel would be enroute to work during the time period allotted to the IAF preemptive attack. Security was also enhanced

tactically by ensuring the crews observed absolute radio silence to preclude the enemy from hearing any transmissions.<sup>41</sup>

### **Surprise**

*The purpose of surprise is to strike the enemy at a time or place or in a manner for which it is unprepared. Surprise can help the commander shift the balance of combat power and thus achieve success well out of proportion to the effort expended. Factors contributing to surprise include speed in decision making, information sharing, and force movement; effective intelligence; deception; application of unexpected combat power; OPSEC; and variation in tactics and methods of operation.*

The Israeli exploitation of surprise helped shift the balance of combat power and achieved success well out of proportion to the effort expended. The opening air phase of the war stands as a classic example of the surprise principle. The destruction of the EAF in the first hours gave the IAF instantaneous air superiority that increased Israel's advantage for the remainder of the war. Factors contributing to Israeli surprise included effective intelligence and a masterful deception plan. Several days before the hostilities began the Israelis enticed the Egyptians to deploy 20 of their MiGs to an air field in the South. The IAF made several probes over the Gulf of Aqaba convincing the Egyptians that the Israelis would attack from the southern Sinai; however, the actual attack was launched from over the Mediterranean Sea.<sup>42</sup>

### **Simplicity**

*The purpose of the simplicity principle is to prepare clear, uncomplicated plans and concise orders to ensure thorough understanding. Simplicity contributes to successful operations. Simple plans and clear, concise orders minimize misunderstanding and confusion. When other factors are equal, the simplest plan is preferable. Simplicity in plans allows better understanding and execution planning at all echelons. Simplicity and clarity of expression facilitate mission execution in the stress, fatigue, and other complexities of modern combat and are especially critical to success in combined operations.*

Operation Moked was a complete success. The objectives and operational orders were clear and definitive. Each squadron commander and pilot knew exactly what targets to hit. All

logistical and sustainment functions were explicitly planned down to the aircraft combat turnarounds with the right expert to fix the plane when it landed. All personnel understood their role in the operation. Adherence to the simplicity principle contributed to successful decision making, information sharing, efficient force movement, deception, and the few variations that arose during the operation reducing the fog and friction of combat.

## **CONCLUSION**

The Israeli air strategy in the 1967 Arab-Israeli War was a completely successful application of airpower. Chaim Herzog states it best: “The outstanding event of the Six Day War was the initial air strike when the Israeli Air Force, commanded by Major General Mordechai Hod, in a carefully planned attack, took the Egyptian and other Arab air forces by surprise, and after three hours...gained complete air superiority in the air on all fronts.” Each principle of war is evident in the Operation Moked plan, and each made a significant contribution to the unqualified success of the plan. The strategic, operational, and tactical objectives were clearly defined and attainable. The principles of offensive and surprise were incorporated into the preemptive strike that resulted in the almost total destruction of the Egyptian Air Force and air defense infrastructure. Forces were economized in early non-critical areas, allowing massing of forces and unity of effort. Extraordinary security contributed to surprise, and simplicity enhanced execution. Air superiority was achieved in hours not days, permitting Israeli military commanders freedom to maneuver at will. Since offensive action is the most effective and decisive way to attain the objective, the aggressive plan Operation Moked clearly defined the means to achieve Success. The analysis of this air operation against the framework of the Principles of War revalidates the utility of incorporating these principles into campaign planning.

## APPENDIX I

### CHRONOLOGY OF EVENTS

#### **1947**

The first war began as a civil conflict between Palestinian Jews and Arabs following the U.N. recommendation of Nov 29, 1947, to partition Palestine, then still under British mandate, into an Arab state and a Jewish state. Arab guerrillas attacked Jewish settlements to prevent implementation of the U.N. plan.

#### **1948**

The British departed and the state of Israel was established on May 15, 1948. Efforts by the United Nations to stop the fighting between Palestinian Arab forces and armies of Transjordan, Iraq, Lebanon, and Syria were unsuccessful.

#### **1949**

Israel extended its frontiers by about 1,930 sq. miles beyond the 4,983 sq. miles allocated to the Jewish state in the U.N. partitions resolution. During 1949, armistice agreements were signed under U.N. auspices between Israel and Egypt, Jordan, Syria, and Lebanon. The armistice frontiers were unofficial boundaries until 1967.

#### **1956**

Border conflicts between Israel and the Arabs continued despite provisions in the 1949 armistice agreements for peace negotiations. Hundreds of thousands of Palestinian Arabs who had left Israeli territory during the first war were concentrated in refugee camps along Israel's borders and were a constant source of friction.

A major point of tension was the Egyptian controlled Gaza Strip from which Arab guerrillas raided southern Israel. Egypt's blockade of Israeli shipping in the Suez Canal and Gulf of Aqaba intensified the hostilities.

The Egyptian President Gamal Nasser nationalized the Suez Canal. Great Britain and France object to Nasser's politics and a joint military campaign was planned against Egypt with the understanding that Israel would take the initiative by seizing the Sinai Peninsula. Operation Kadesh commanded by Moshe Dayan lasted less than a week; its forces reached the eastern bank of the Suez Canal in about 100 hours, seizing the Gaza Strip and nearly all the Sinai Peninsula.

The war was halted by the U.N. resolution that called for an immediate cease fire and withdrawal of all occupying forces from Egyptian territory. The United Nations also established a United Nations Emergency Force (UNEF) to replace the allied troops on the Egyptian side of the borders in Suez, Sinai and Gaza.

## 1964

Tension between King Hussein's Jordan and Israel had been mounting since 1964, when the newly formed Palestine Liberation Organization began to express itself militarily with attacks into Israel.

## 1965

An increasing number of terrorist infiltrations had prompted the Israeli Defense Force to mount retaliatory operations meant to destroy Palestinian bases as well as the protective ring of Jordanian troops that surrounded each guerrilla encampment.

## 1966

In November, an Israeli jeep detonated a land mine planted in the Arava desert near the Jordanian frontier, killing three paratroopers. Israel responded with Operation Step, raiding the border villages of Jordan killing dozens of terrorists and Jordanian soldiers in a day long battle. *The IDF announced to the world that Israel must keep her borders secure even if it meant war.*

### April 7, 1967

The Syrians battered the Israeli agricultural settlements below the Golan Heights. IAF commander Major Gen Mordechai "Moti" Hod dispatched a flight of Super Mysteres to take out the Syrian guns. The Mysteres were intercepted by Syrian MiG21s. The IAF pilots eliminated the six MiGs. *IDF Chief of Staff Lt Gen Yitzhak Rabin warned Syria that Israel would not remain passive in the face of provocations.*

### May 15, 1967

The Arab world turned to the leadership of Egyptian President Nasser. Nasser placed the Egyptian Army on full alert. The Egyptian army began to cross the Suez Canal and ferry front-line infantry and tank forces into the Sinai desert.

The Soviets gave the Egyptians and Syrians false information about nonexistent IDF troop movements and about American intentions.

The Israeli political elite were not responsive. They believed the movement of the Egyptian army was only a show of force. The elite 4<sup>th</sup> Armored Division had not been employed. Without this force the IDF did not believe Egypt could mount a serious offensive; however, *the IDF conducted a secret mobilization of some of its reserve forces.*

Information concerning chemical weapons was examined. Nasser already had used them in the Yemen Civil War.

**May 18, 1967**

U.N. Secretary General U Thant capitulated to President Nasser's demand that the U.N. peacekeeping force evacuate the Sinai.

Arab media indicated that three infantry and engineering brigades originally stationed in Egypt had boarded transport aircraft and were headed toward the Sinai; already six full Egyptian divisions were poised for action throughout the Sinai.

**May 20, 1967**

Egyptian units took over heavy gun emplacements in the Straits of Tiran at Sharm al-Sheikh, Israel's commercial gateway to Asia and Africa. Every Israeli cargo ship, vessels that ferried fuel and raw material from Iran and Africa, was now faced with Egyptian gunners.

**May 22, 1967**

Egyptian President Nasser announced the blockade of the Straits of Tiran.

A preemptive attack was discussed as Israel's option to the closing of the straits. The prime minister attempted to press the United States, England, and France in a last ditch diplomatic effort. High level cables to Egypt had little effect.

**May 24, 1967**

The Egyptian army's 4<sup>th</sup> Division rolled into the Sinai.

**May 30, 1967**

King Hussein of Jordan paid a surprise visit to Cairo, accompanied by Prime Minister Saad Jamaa, General Amer Khammash, the Royal Jordanian Army Chief of Staff, and General Saleh Kurdi, the Operations Commander of the Royal Jordanian Air Force. A mutual defensive pact was signed bringing Jordan into a joint military command with Egypt. Egyptian General Abdul Moneim Riadh was named commander of Arab forces on the Jordanian front. It was to be a three-border war including Syria.

**2 June 1967**

Israel's Prime Minister Levi Eshkol was hesitant to issue the authorization for a preemptive strike. Israel was concerned about world opinion if it should strike first. In a historic cabinet and military meeting, Israeli intelligence described the extensive employment of Egyptian forces. The IAF commander added the details for each Egyptian air base.



### **3 June 1967**

Israel's Prime Minister Eshkol was persuaded to act when Egypt transferred commando units to Jordan. This signaled the onset of covert cross border sabotage attacks that would precipitate an Egyptian first strike. They had been deployed around the Israeli city of Eilat, which borders Aqaba and is Israel's sole shipping lane to the East.

### **4 June 1967**

The Israeli cabinet, consisting of twenty-one ministers from seven different political parties, *voted on June 4 to go to war.*

### **5 June 1967**

Israel's blitz against Egyptian forces in the Sinai and against Egyptian air Force bases throughout the country began. Preemptive strikes were conducted against air fields in Egypt, Syria, Jordan and Iraqi airfields.

### **6 June 1967**

Israel had destroyed the combat effectiveness of the major Arab air forces. Israel occupied the Sinai in less than four days. King Hussein rejected an offer of neutrality and fired on Israeli forces in Jerusalem.

### **8 June 1967**

A lightning Israeli campaign placed all of Arab Jerusalem and the Jordanian West Bank in Israeli hands by June 8. As the war ended on the Jordanian and Egyptian fronts, Israel opened an attack on Syria in the North. In two days of fierce fighting, Syrian forces were driven from the Golan Heights.

### **10 June 1967**

The Six Day War ended on June 10 when the United Nations negotiated cease fire agreements on all fronts. The Six Day War increased the area under Israel's control. Through the occupation of Sinai, Gaza, Arab Jerusalem, the West Bank, and the Golan Heights, Israel shortened its land frontiers with Egypt and Jordan and temporarily increased its strategic advantages with Arab states. However the war placed 1,500,000 Palestinian Arabs under Israeli control who would threaten internal security. Another war would erupt in 1973, led by Egypt to regain lost territory and Arab prestige.

**Information compiled from Soldier Spies, Israeli Military Intelligence by Samuel M. Katz, 1992 and from Grolier's Multimedia Encyclopedia, 1996.**

## APPENDIX II

### AIR ORDER OF BATTLE IN THE MIDDLE EAST ON 5 JUNE 1967

COUNTRY (Size of AF)	COMBAT AIRCRAFT	TRANSPORTS	HELICOPTERS
ISRAEL (8000)	25 Vautour 72 Mirage 20 Super Mystere 40 Mystere IV 40 Ouragan <u>60 Fouga Magisters</u>	25 Noratlas 10 C-47 6 Stratocruiser	11 S-58 15 Alouette III 12 Super Frelon 6 Alouette II 3 S-55
TOTAL	<u>257</u>	<u>41</u>	<u>47</u>
EGYPT (20,000)	30 Tu-16 40 Il-28 130 MIG-2 80 MIG-19 100 MIG-17 50 MIG-15 <u>20 Su-7</u>	70 Il-14 20 An-12 8 C-47	12 Mil Mi-6 10 Mil Mi-8 10 Mil Mi-4
TOTAL	<u>450</u>	<u>98</u>	<u>32</u>
SYRIA (9000)	68 Il-28 20 MIG-21 20 MIG-19 <u>60 MIG-17/15</u>	10 Il-14 6 C-47	10 Mil-4 4 Mil-1
TOTAL	<u>106</u>	<u>16</u>	<u>14</u>
JORDAN	18 Hunter MK6		3 Alouettes
TOTAL	<u>18</u>		<u>3</u>
IRAQ (10,000)	12 Tu-16 10 Il-28 60 MIG-21 15 MIG-19 15 MIG-17 50 Hunter MK9s <u>20 T-52 Jet Provost</u>	10 An-12 10 Il-14	6 Wessex 9 Mil Mi-4 4 Mil Mi-1
TOTAL	<u>182</u>	<u>20</u>	<u>19</u>

Source: Le Moniteur de l'Aeronautique 1966-67, in Rodney S. Crist, "Air Superiority: A Case Study." p. 25. <sup>43</sup>

### APPENDIX III

#### AIRCRAFT LOSSES DURING THE SIX DAY WAR

ISRAEL		EGYPT	
9 Mystere		95 MIG-21	
6 Fouga Magister		85 MIG-15/17	
5 Vautour		30 Tu-16	
4 Ouragan		27 Il-28	
6 Mirage III		25 MIG-19	
1 Noratlas		24 Il-14	
		12 Su-7	
		8 An-12	
		8 Mi-6	
		4 Mi-4	
<hr/> 31*		<hr/> 318**	
JORDAN	SYRIA	LEBANON	IRAQ
18 Hunter	32 MIG-21/19	1 Hunter	12 MIG 21
1 Allouette	20 MIG-17/15		5 Hunter
	3 Mil Mi-4		3 Il-28
	2 Il-28		2 Il-14
	2 Il-14		1 Tu-16
<hr/> 19	<hr/> 59	<hr/> 1	<hr/> 23

\* Reflects total of first two days, 40 IAF aircraft destroyed in the entire Six Day War

\*\* Reflects total of first two days, 431 EAF aircraft destroyed in the entire Six Day War

NOTE: Compilation of several sources, numbers are approximate.

Sources: Le Moniteur de l'Aeronautique, 1955-1967, in Rodney S. Crist, "Air Superiority: A Case Study," p 25. See also Trevor N. Dupuy, Elusive Victory, p. 333.

## NOTES

<sup>1</sup> Eliezer Cohen, Israel's Best Defense (New York: Crown, 1993), 206. Colonel "Cheetah" Cohen examines the Six Day War as a twenty-four-year Israeli Air Force veteran. He flew or served with virtually all the key figures in the development of Israeli air power. Colonel Cohen quotes Major General Mordechai Hod, the new IAF commander at the beginning of the 1967 war.

<sup>2</sup> Brereton Greenhous, "The Israeli Experience," Case Studies in the Achievement of Air Superiority, Ed. Benjamin Franklin Cooling (Washington: Center for Air Force History, 1994) 565.

<sup>3</sup> *ibid.* 565. The defense of Israel is a difficult problem. The successful defense of Israel entails an appreciation for the attributes of air power. To Israel, a small country in a hostile strategic position, air power is vital. Today, operational air speeds and altitudes have increased and missiles have enhanced the threat.

<sup>4</sup> The Joint Chiefs of Staff, JCS Pub 3-0, Doctrine for Joint Operations (Washington: GPO, 1995) A-1.

<sup>5</sup> Thomas J. Waraksa, "Recurrent Conflict and Elusive Peace: The Arab-Israeli Wars," The Arab-Israeli Wars, the Chinese Civil War, and the Korean War Ed. Thomas E. Griess (Wayne, NY: Avery, 1987) 10.

<sup>6</sup> *ibid.* 10.

<sup>7</sup> *ibid.* 10.

<sup>8</sup> Dennis M. Drew, Making Strategy: An Introduction to National Security Processes and Problems (Washington: GPO, 1988) 163. Dr. Drew explains that doctrinal beliefs are not immutable physical laws but are interpretations of changing evidence such as new technology and new circumstances. The principal source of doctrine is experience and is a compilation of those things that have generally been successful in the past. Thus, Dr. Drew concludes that military doctrine is a constantly maturing and evolving process. The real key according to Dr. Drew is the accurate analysis and interpretation of history or experiences.

<sup>9</sup> George W. Gawrych, Key to the Sinai: The Battles for Abu Ageila in the 1956 and 1967 Arab-Israeli Wars (Fort Leavenworth: U.S. Army Command and General Staff College, 1990) 67.

<sup>10</sup> Waraksa 9.

<sup>11</sup> *ibid.* 9.

<sup>12</sup> John M. Collins, "The Essence of Strategy," Grand Strategy: Principles and Practices, Air War College Associate Programs vol I. LSN 7 5th ed. (1973): 1. Strategy is defined by Dr. Collins as sequential or cumulative. The Israeli strategy was sequential in that the first phase or air operation was essential before employing ground forces.

<sup>13</sup> Cohen 193.

<sup>14</sup> Cohen 193. Dan Tolkowsky had initiated the idea of a preemptive strike. His initial plans only included the front-line bases in the Sinai. This information is in contrast to others credited with the idea. (see On Eagles Wings by Ezer Weizman) In the 1960s, the Operations Branch Commander, Rafi Har-Lev, and a helicopter navigator, Rafi Sivron, began discussions for a preemptive strike against all Arab air bases. The difficulty was involving all necessary resources of the Air Force while maintaining the essential element of secrecy. Intelligence was crucial. Information was collected on the locations of enemy aircraft, munitions, fuel supplies, data on pilots, air base design and defenses including runway thickness and materials, flight control, radar, regional control centers and scrambling procedures.

design and defenses including runway thickness and materials, flight control, radar, regional control centers and scrambling procedures.

<sup>15</sup> Cohen 194. Aircraft conducted high altitude reconnaissance missions to obtain intelligence data.

<sup>16</sup> Cohen 195. In 1966, the Israelis developed a runway demolition bomb. The bomb was developed by the Israeli Military Industries according to the planner's request. It weighed 154 pounds. It created a crater five meters wide and one-and-a-half meters deep. The bomb was dropped from an altitude of one hundred meters and slowed down by a parachute that would simultaneously activate a rocket that would propel it through multiple layers of runway.

<sup>17</sup> Cohen 194.

<sup>18</sup> Cohen 195. During the first two runs, emphasis was on technical readiness of aircraft with maintenance intervals between sorties reduced to minutes. Maintenance control centers held service history files on each aircraft. A communications system was developed to receive warnings of problems or damages as it returned to the base. The appropriate experts were waiting to fix the aircraft upon its return with the necessary parts and tools. This practice is followed in the USAF today.

<sup>19</sup> Cohen 196. Ezer Weizman had planned that air superiority would be achieved within six hours of the commencement of the attack while most Egyptian aircraft were on the ground. The planning assumption was made that Syria would not be able to respond until the first wave was completed. The attack was designed to cause paralysis and prevent any attempts at defense or escape by the EAF, a tactic they practiced routinely. Even during the final phase of planning, Major General Moti Hod had to assure the Prime Minister that not a single bomb would fall on Tel Aviv. Never did he state directly that the entire IAF would attack during Operation Moked and that only twelve aircraft would be left to defend the nation's skies.

<sup>20</sup> W. Byford-Jones, The Lightning War (Indianapolis, NY: Bobbs-Merrill, 1968) 106. Brigadier General S. Gavish was in charge of the Southern Command of the Israeli Army. He had under his command three other brigadier generals, Tal, Yoffe, and Sharon to cover the three-chief axes. Each commanded a division and all were opposed by seven Egyptian divisions.

<sup>21</sup> Cohen 194.

<sup>22</sup> Cohen 196. Electronic warfare was still new. The United States was employing the new technology in Vietnam. The IAF employed the new technology to confuse the Egyptian radar and communication systems including missile batteries and anti-aircraft guns.

<sup>23</sup> Chaim Herzog, The Arab-Israeli Wars (New York: Random, 1982) 366-367. The U.S. diplomatic efforts tried to build a bridge between the Israeli and the Arab positions on the basis of U.N. Security Council Resolution 242, which was adopted on 22 November 1967. The resolution called for the withdrawal of Israel's armed forces from territories occupied in the recent conflict as well as the "right of every state in the area...to live in peace within secure and recognized boundaries free from threats or acts of force." The U.S. Secretary of State, William Rogers, successfully negotiated a cease fire along the Suez Canal.

<sup>24</sup> Don A. Starry "The Principles of War," Military Review. 61.9 (1981): 5.

<sup>25</sup> C.R. Brown, "The Principles of War," Proceedings 75.6 (1949): 622. Admiral Brown cautions the military student to approach the principles of war critically and objectively. Each principle should be viewed with suspicion and made to prove its worth. He reminds his audience that war cannot be fought from a book and that the principles must remain servants not our masters.

<sup>26</sup> Greenhous 577.

<sup>27</sup> The Joint Chiefs of Staff 8-15. This and all subsequent definitions of the principle of war.

<sup>28</sup> Warden 112. Colonel Warden lists three categories of military objectives. First, the military objective can be the destruction or neutralization through maneuver of some or all of the enemy's forces. The necessary degree of destruction will depend on the importance of the political objective as seen by the enemy. The second category states that the military objective can be the destruction of some or all of the enemy's economy. The third category describes the military objective in support of a political objective such as unconditional surrender or the destruction of the will to resist

<sup>29</sup> *ibid.* 138. The 1967 Arab-Israeli war is the only major war fought in the twentieth century where the whole war was essentially decided by a single battle on a single day.

<sup>30</sup> Waraska 11.

<sup>31</sup> *ibid.* 10.

<sup>32</sup> Starry 9.

<sup>33</sup> Warden 34.

<sup>34</sup> Jason B. Barlow, An Air Power Strategy for the Present. School of Advanced Air power Studies (Maxwell AFB: AUP, 1992). The concept of strategic paralysis arises from the use of air power with the idea of paralyzing the enemy. It calls for precise aerial attacks against an enemy's most vital targets to paralyze his ability to continue the conflict and perhaps even break his will. For example, had Nassar received the correct information on the level of destruction of his air force and air fields, his decision to continue the fight and to expound his rhetoric on the radio may have changed.

<sup>35</sup> Starry 8.

<sup>36</sup> Cohen 197.

<sup>37</sup> Martin van Creveld, "Israel: Maneuver Warfare, Air Power, and Logistics," Air Power and Maneuver Warfare (Maxwell AFB: AUP, July 1994) 160.

<sup>38</sup> *ibid.* 165.

<sup>39</sup> W. J. Kotsch, "The Six Day War of 1967," Proceedings (June 1968 ): 78.

<sup>40</sup> Starry 9.

<sup>41</sup> Cohen 194.

<sup>42</sup> Kotsch 73.

<sup>43</sup> Rodney S. Crist, "Air Superiority a Case Study," unpub. research paper, U.S. Naval War College, Newport, RI, 25. See also Ronald D. Jones, "Israeli Air Superiority in the 1967 War: An Analysis of Operational Art. unpub. research paper, U.S. Naval War College, 16,17.

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